

Application No. 10/605,241
Docket No. 121441-7
Amendment dated June 18, 2004
Reply to Office Action of March 18, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): A component having a coating on a first surface thereof and a machined through-hole from which has been removed a deposit that was contiguous with the coating with the result that the through-hole has a first through-hole surface defined by the component and a second through-hole surface defined by a portion of the coating exposed by removal of the deposit, the deposit being removed by directing a liquid-containing jet at the through-hole from a second surface of the component opposite the first surface, the jet containing non-abrasive particulate media and being emitted from a nozzle at a pressure insufficient to remove substantially all of the deposit from the through-hole if the particulate media were not present in the jet, wherein the through-hole is free of debris from the deposit, the first through-hole surface is impact-flattened to have a better than as-machined surface finish, and the through-hole is characterized by a better than as-machined discharge coefficient. ~~surfaces of the component and the coating defining the through-hole are deburred and smoothed so as to increase the discharge coefficient of the through-hole.~~

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Claim 2 (original): A component according to claim 1, wherein the coating is a ceramic layer on the first surface of the component.

Claim 3 (original): A component according to claim 2, wherein the ceramic layer is a plasma sprayed ceramic layer.

Claim 4 (original): A component according to claim 1, wherein the component is an air-cooled component, and the through-hole is a cooling hole that intersects the first and second surfaces of the component.

Claim 5 (currently amended): A component according to claim 1, wherein the second through-hole surface is ~~surfaces of the component and the coating defining the through-hole are~~ deburred and smoothed primarily by impact fracturing of the deposit and ~~impact flattening of the surfaces, and~~ not by erosion or abrasion of the deposit.

Claim 6 (original): A component according to claim 1, wherein the discharge coefficient of the through-hole is at least 0.9.

Claim 7 (original): A component according to claim 1, wherein the

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discharge coefficient of the through-hole is greater than 0.91.

Claim 8 (currently amended): An air-cooled gas turbine engine component having a metallic bond coat on a first surface thereof, a ceramic layer on the bond coat, and machined cooling holes that intersect a first surface and an oppositely-disposed second surface of the component, wherein deposits have been removed from the cooling holes that were contiguous with the coating with the result that each of the cooling holes has a first through-hole surface defined by the component and a second through-hole surface defined by a portion of the ceramic layer exposed by removal of the deposits, the deposits being removed by directing a liquid-containing jet at the cooling holes from the second surface of the component, the jet containing spherical non-abrasive particulate media and being emitted from a nozzle at a pressure insufficient to remove substantially all of the deposit from the cooling holes if the particulate media were not present in the jet, wherein the cooling holes are free of debris from the deposits, the first through-hole surfaces are impact-flattened to have better than as-machined surface finishes, the second through-hole surfaces defined by the ceramic layer are not chipped, and the cooling holes have discharge coefficients ~~surfaces of the component and the ceramic layer defining the cooling holes are deburred and smoothed so as to increase the discharge coefficient of the cooling holes to a value~~ of at least 0.9.

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Claim 9 (currently amended): An air-cooled gas turbine engine component according to claim 8, wherein the second through-hole surfaces are characterized by removal of the deposits ~~are removed from the cooling holes primarily~~ by impact fracturing and not by erosion or abrasion.

Claim 10 (canceled)

Claim 11 (original): An air-cooled gas turbine engine component according to claim 8, wherein the air-cooled gas turbine engine component is a combustor liner.

Claim 12 (original): An air-cooled gas turbine engine component according to claim 8, wherein the discharge coefficients of the cooling holes are greater than 0.91.